

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P685729

Luminaire Tested: **4CZL-5-UNV-N-LVR-L840-CD-U**

Issue Date: 05/10/2023



Test Information

Test Method: LM-79-08
Report Number: P685729
Test Lab: INNOVATION CENTER(G3)
Issue Date: 05/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4CZL-5-UNV-N-LVR-L840-CD-U
Description: METALUX CRUZE LINEAR 4FT LOUVER MODEL WITH NARROW LENS @80 CRI and 4000K
Light Source: (392) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

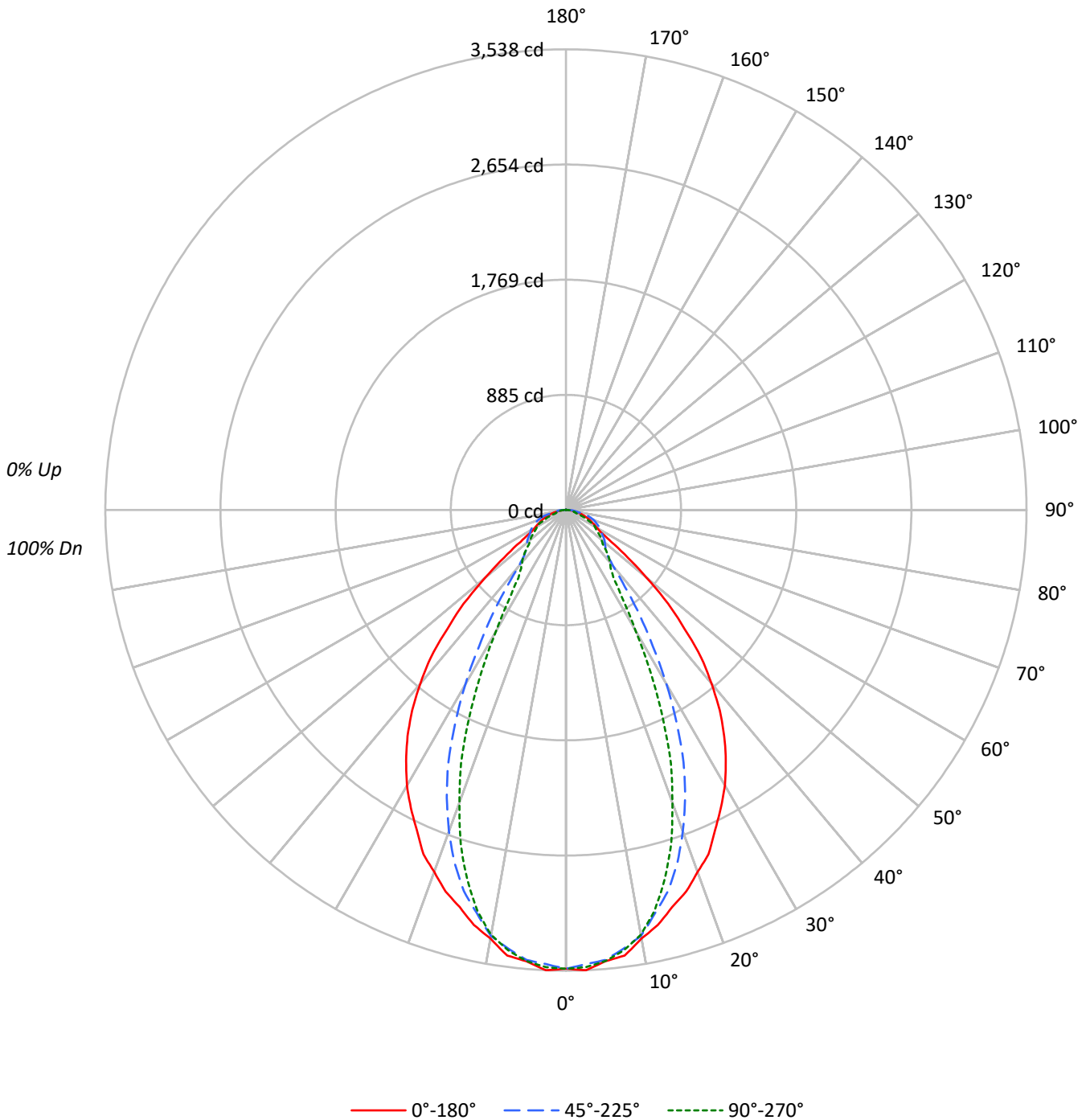
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4170.6 lumens
Efficiency: N/A
Efficacy: 134.5 lumens/watt
Spacing Criteria (0/90/45): 1.06 / 0.8 / 0.85
Luminous Opening: Rectangular (W 0.83' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 31
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				
RC	80				70				50				30				10			0	
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	93	92	90	88
2	103	97	92	87	101	95	90	86	92	88	84	88	85	82	86	83	80	86	83	80	78
3	97	88	82	77	94	87	81	76	84	79	75	81	77	73	79	75	72	79	75	72	70
4	90	81	74	68	88	79	73	68	77	71	67	75	70	66	73	69	65	73	69	65	63
5	85	74	67	62	83	73	66	61	71	65	61	69	64	60	68	63	59	68	63	59	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	55	63	58	55	53
7	75	64	57	51	73	63	56	51	62	55	51	60	55	51	59	54	50	59	54	50	49
8	71	59	52	47	69	59	52	47	58	51	47	56	51	47	55	50	47	55	50	47	45
9	67	56	49	44	66	55	49	44	54	48	44	53	48	44	52	47	43	52	47	43	42
10	64	52	46	41	62	52	45	41	51	45	41	50	45	41	49	44	41	49	44	41	39

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11375	11375	11375
5°	11274	11242	11271
10°	10956	10889	10862
15°	10550	10129	9808
20°	10161	9023	8214
25°	9656	7619	6263
30°	9108	5763	4002
35°	8360	3907	2514
40°	7332	2380	2205
45°	5874	1983	1976
50°	4062	1960	1784
55°	2393	1942	1680
60°	1783	2018	1660
65°	1687	2032	1459
70°	1623	2167	1102
75°	1531	2175	942
80°	1421	1804	1066
85°	1260	2190	1315



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.2	7.8
10°-20°	847.2	20.3
20°-30°	989.8	23.7
30°-40°	734.3	17.6
40°-50°	486.8	11.7
50°-60°	322.9	7.7
60°-70°	240.9	5.8
70°-80°	142.2	3.4
80°-90°	59.9	1.4
90°-100°	12.9	0.3
100°-110°	1.8	0.0
110°-120°	0.9	0.0
120°-130°	0.8	0.0
130°-140°	0.8	0.0
140°-150°	0.8	0.0
150°-160°	0.7	0.0
160°-170°	0.5	0.0
170°-180°	0.2	0.0
0°-30°	2164.2	51.9
0°-40°	2898.5	69.5
0°-60°	3708.2	88.9
0°-90°	4151.1	99.5
90°-120°	15.6	0.4
90°-150°	18.0	0.4
90°-180°	19.0	0.5
0°-180°	4170.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3522	3522	3522	3522	3522	
5°	3478	3475	3468	3481	3477	329
15°	3156	3118	3030	2978	2934	890
25°	2710	2515	2138	1834	1758	1248
35°	2121	1571	991	670	638	1316
45°	1286	759	434	451	433	990
55°	425	373	345	333	298	418
65°	221	247	266	260	191	220
75°	123	137	174	126	76	129
85°	34	42	59	78	36	37
90°	1	12	30	51	10	2
95°	0	2	12	25	5	0
105°	0	1	1	2	2	0
115°	0	1	1	1	1	0
125°	1	1	1	1	1	0
135°	1	1	1	1	1	0
145°	1	1	1	2	2	1
155°	1	2	2	2	2	1
165°	2	2	2	2	2	0
175°	2	2	2	2	3	0
180°	2	2	2	2	2	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3522.5	3522.5	3522.5	3522.5	3522.5
2.5°	3537.7	3518.6	3491.1	3515.9	3513.8
5°	3478.0	3475.0	3468.2	3480.7	3477.1
7.5°	3451.1	3435.0	3396.8	3426.4	3409.7
10°	3341.3	3322.5	3320.7	3314.8	3312.7
12.5°	3263.4	3240.7	3168.2	3164.3	3148.2
15°	3155.7	3118.1	3029.7	2977.5	2933.7
17.5°	3072.1	2990.4	2842.9	2745.6	2689.2
20°	2956.9	2866.8	2625.7	2455.9	2390.2
22.5°	2862.0	2702.4	2392.3	2152.0	2107.0
25°	2710.1	2515.2	2138.3	1834.2	1757.8
27.5°	2578.2	2309.3	1838.7	1505.0	1411.3
30°	2442.7	2078.6	1545.6	1182.1	1073.2
32.5°	2284.8	1846.1	1243.9	887.0	808.2
35°	2120.7	1571.3	991.1	670.0	637.8
37.5°	1939.9	1324.2	744.9	559.6	564.9
40°	1739.3	1108.7	564.6	513.0	523.2
42.5°	1539.3	927.2	469.7	482.6	485.6
45°	1286.3	758.9	434.2	450.6	432.7
47.5°	1065.1	620.2	409.2	407.4	382.0
50°	808.5	505.6	390.1	368.6	355.1
52.5°	598.7	426.5	371.9	348.3	334.5
55°	425.0	373.3	345.0	333.1	298.4
57.5°	319.3	335.7	324.4	297.5	273.4
60°	276.1	302.6	312.5	280.5	257.0
62.5°	249.2	274.3	293.1	270.4	235.2
65°	220.8	246.8	265.9	259.9	191.0
67.5°	196.1	225.0	248.6	222.9	156.1
70°	171.9	198.8	229.5	189.2	116.7
72.5°	145.9	166.2	203.2	147.1	85.1
75°	122.7	137.3	174.3	126.5	75.5
77.5°	98.2	110.4	119.4	115.2	66.6
80°	76.4	88.6	97.0	104.8	57.3
82.5°	55.5	63.6	77.0	92.8	47.8
85°	34.0	41.5	59.1	78.5	35.5
87.5°	14.6	25.4	43.3	65.1	23.3
90°	0.6	12.5	29.5	50.7	10.4
92.5°	0.3	5.4	19.1	37.3	6.9
95°	0.3	2.1	11.6	25.4	5.4
97.5°	0.3	0.9	6.0	16.4	3.9
100°	0.3	0.6	3.3	9.6	2.7
102.5°	0.3	0.6	1.5	4.8	2.1
105°	0.3	0.6	1.2	2.1	1.8
107.5°	0.3	0.6	0.9	1.5	1.5
110°	0.3	0.6	0.9	1.5	1.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	0.3	0.6	0.9	1.5	1.5
115°	0.3	0.6	0.9	1.2	1.2
117.5°	0.3	0.6	0.9	1.2	1.2
120°	0.3	0.6	0.9	1.2	1.2
122.5°	0.3	0.6	0.9	1.2	1.2
125°	0.6	0.6	0.9	1.2	1.2
127.5°	0.6	0.9	0.9	1.2	1.2
130°	0.6	0.9	0.9	1.2	1.2
132.5°	0.6	0.9	0.9	1.2	1.2
135°	0.6	0.9	0.9	1.2	1.2
137.5°	0.6	0.9	1.2	1.2	1.2
140°	0.9	1.2	1.2	1.2	1.2
142.5°	0.9	1.2	1.2	1.5	1.2
145°	0.9	1.2	1.2	1.5	1.5
147.5°	0.9	1.2	1.5	1.5	1.5
150°	0.9	1.2	1.5	1.8	1.8
152.5°	1.2	1.2	1.5	1.8	1.8
155°	1.2	1.5	1.5	1.8	1.8
157.5°	1.2	1.5	1.5	1.8	2.1
160°	1.2	1.5	1.8	2.1	2.1
162.5°	1.2	1.5	1.8	2.1	2.1
165°	1.5	1.8	1.8	2.1	2.1
167.5°	1.5	1.8	2.1	2.1	2.4
170°	1.5	1.8	2.1	2.4	2.4
172.5°	1.5	1.8	2.1	2.4	2.4
175°	1.5	1.8	2.1	2.4	2.7
177.5°	1.5	1.8	2.1	2.4	2.7
180°	2.1	2.1	2.1	2.1	2.1

(END OF REPORT)